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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/672,237	09/27/2000	William Robert Caid	5382	7863

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GLENN PATENT GROUP  
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EXAMINER

HIRL, JOSEPH P

ART UNIT PAPER NUMBER

2129

DATE MAILED: 03/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/672,237

Applicant(s)

CAID ET AL.

Examiner

Joseph P. Hirl

Art Unit

2129

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on December 21, 2005 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. This Office Action is in response to an AMENDMENT entered December 21, 2005 for the patent application 09/672237 filed on September 27, 2000.
2. The First Office Action of April 9, 2003 is fully incorporated into this office action by reference.

### ***Status of Claims***

3. Claims 1-35 are pending.

### ***Claim Rejections - 35 USC § 101***

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 1-35 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claims do not identify a practical application that produces a useful, tangible and concrete result using the claimed methodology. Rubber-Tip Pencil Co. v. Howard, 87 U.S. (20 Wall.) 498, 507 (1874)  
While arguments can be put forth to establish usefulness of the claims and with a given input, the output will appropriately match to establish concreteness, the claims fail to establish tangibility. The subject claims implement abstractness and do not produce a tangible result. Mere numbers in a computer do not represent tangibility.

6. Claims 1-17 and 27-33 are rejected under 35 U.S.C. 101 because the claimed invention lacks patentable utility.

Claim 1 @ step one, states:

assigning a context vector to each of a plurality of information items

Claim 1 @ step two, states:

initializing the context vectors such that the context vectors are substantially orthogonal to each other in a vector space

Specification @ page 3, line23 through page 4, line 1 states:

Thus, two information items having similar meaning or content have similarly oriented context vectors, while items having dissimilar meaning or content have orthogonal context vectors.

Claim 1 @ step three, states:

determining proximal co-occurrences of the information items

Conclusion: since Claim 1 @ step 2 eliminated information content with substantially orthogonal vectors, step three will always result in no proximal co-occurrences or the independent and related dependent claims will never convey any utility.

In a similar manner, Claims 27-33 are defective and rejected.

***Claim Rejections - 35 USC § 112***

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

Art Unit: 2129

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-17 and 27-33 are rejected under 35 USC 112, first paragraph because current case law (and accordingly, the MPEP) require such a rejection if a 101 rejection is given because when Applicant has not in fact disclosed the practical application for the invention, as a matter of law there is no way Applicant could have disclosed how to practice the undisclosed practical application. This is how the MPEP puts it:

("The how to use prong of section 112 **incorporates as a matter of law** the requirement of 35U.S.C. 101 that the specification disclose as a matter of fact a practical utility for the invention.... If the application fails as a matter of fact to satisfy 35 U.S.C. 101, then the application also fails as a matter of law to enable one of ordinary skill in the art to use the invention under 35 U.S.C. § 112."); In re Kirk, '376 F.2d 936, 942, 153 USPQ 48, 53 (CCPA 1967) ("Necessarily, compliance with § 112 requires a description of how to use presently useful inventions, **otherwise an applicant would anomalously be required to teach how to use a useless invention.**"). See, MPEP 21107.01 (IV), quoting In re Kirk (emphasis added).

Therefore, claims 1-17 and 27-33 are rejected on this basis.

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 18, 21, 23-27, 29, 33-35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

### Claims 1, 27, 33

Fig. 34 indicates that the Context Vectors will be initialized before the Atom or information element.

**Claim 18**

From the specification, page 38, lines 5-27 does not address  $D \ll R$ . R is addressed as being large, but nothing is stated about D. The benefit of using an SVD method is to render the process to that of a single pass method.

**Claim 21**

First step, if there is a unique association of a context vector with an information element, the concept that there is only a similar orientation in the vector space upsets the premise. Similarity in orientation would accommodate multiple pairing and thereby preclude a unique association.

**Claims 23-26, 29**

Specification accommodates "Context Vector Generation and Retrieval" without enumerating sets of information elements and processes.

**Claims 34, 35**

Specification, page 23, lines 9-26; page 24, lines 1-2 set forth the index information retrieval system which is different from that of this claim.

***Response to Arguments***

9. The objection to the specification is withdrawn with the changes made in the reply dated October 4, 2005.
10. The rejection to claims 1-35 under 35 USC 112, second paragraph, regarding "information elements" is withdrawn.

Art Unit: 2129

11. The rejection to claim 21 under 35 USC 112, second paragraph, regarding "unique association" is withdrawn.

12. Applicant's arguments filed on December 21, 2005 related to Claims 1, 18, 21, 23-27, 29 and 33-35 have been fully considered but are not persuasive.

In reference to Applicant's argument:

With regard to Claims 1, 27, and 33, the Examiner states "Fig. 34 Indicates that the Context Vectors will be Initialized before the Atom or information element." Applicant does not understand what the Examiner means by this comment because none of Claims 1, 23, and 33 refers to "atoms." Figure 34 is drawn to a specific embodiment in the invention, which is narrower than the subject matter set forth in Claims 1, 27, and 33. Accordingly, Applicant is of the opinion that the Examiner's comment here, absent further explanation by the Examiner, cannot form the basis for an objection under 35 USC 112 for indefiniteness.

Examiner's response:

Fig. 34 clearly shows that the context vectors are initialized before assigning of Atom ID or information element (item) are assigned to a context vector. Claim 1 does not have the process correct. Problems of a similar nature exist with claims 27 and 33.

In reference to Applicant's argument:

With regard to Claim 18, the Examiner has indicated that the specification at page 38, lines 5-27 does not address  $D \ll R$ . Thus, the Examiner appears to be stating that the relationship set forth in the claim is not supported by the specification. Applicant respectfully disagrees on at least two bases. First of all, the Examiner is referred to the discussion beginning at page 33, wherein the specification defines Context Vectors and teaches that they can be constructed. Beginning at page 33 and in the following, a relationship is established between R and D through a series of equations and derivations of equations. In this regard, D is shown to be a square root and that R is a product of OD and QT. By definition, a product which is produced by a number of factors, one of which is a square root, would naturally be larger than the square root factor, itself. Thus, by mathematical logic, the relationship in Claim 18 is stated in the specification.

Examiner's response:

Applicant is reminded that R is not single valued but is a matrix. From the specification @ page 33, lines 19-20, applicant is taking the square root of the matrix of

D which consequently has each of the D diagonal elements equal to the square root of the corresponding diagonal element of D ... the square root of D is also a matrix. The question still remains concerning what does  $D \ll R$  mean? Examiner does not believe that one of ordinary skill in the art can follow the above "mathematical logic." A comparison of matrices without appropriate definition results in confusion.

In reference to Applicant's argument:

Claims 23-26, 29. The Examiner states that the "[s]pecification accommodates 'Context Vector Generation Retrieval' with unenumerating sets of information elements and processes." In this regard, the Examiner has referred to the discussion beginning at page 40 and continuing through page 41. Further, the Examiner refers to information elements and "processes." There is no recitation of "processes" in the enumerated claims.

Examiner's response:

The Examiner's rejection remains since the specification is silent on "sets" of information as indicated in the First Office Action.

In reference to Applicant's argument:

Claims 34, 35. Here, the Examiner indicates that the language of the claim does not track exactly the language in the specification beginning on page 23 and continuing through page 24. Applicant respectfully disagrees. The claim refers to a "defined index of terms," which can be seen on page 23, line 7. The claim provides an indexed collection of documents. The specification refers to "a set of documents that have been indexed . . ." (page 23, line 12). The claim provides a plurality of terms that are associated with the Context Vector. The specification refers to building Context Vectors for words . . . ; and generating a Context Vector for the new document to be automatically indexed (page 23, lines 11-16). The claim refers to generating for each index document a Context Vector. See, for example, page 23, line 11. The claim refers to receiving a new document to be indexed. See, for example, page 23, line 15. The claim refers to generating a new Context Vector. See, for example, page 23, line 15. The claim refers to selecting an index document having a similar Context Vector. See, for example, page 23, lines 16-26. Finally, the claim refers to assigning an index term to the new document that is assigned to a selected index document. See, for example, page 24, lines 1-2.

Examiner's response:



The specification provides an ordered process in the assigning of index terms ... note the numbering of the steps referred to in "the following manner" in the specification @ page 23, line 10. The subject claims ignore the process which would confuse one of ordinary skill in the art requiring such individual to undergo extensive experimentation to replicate the invention identified in the claims ... whatever it is. Structure and procedures in technology are very important if success is to be achieved. Note the problem with claim 1 identified above. The Patent Office strives for patents that represent successful inventions.

### ***Conclusion***

13. Claims 1-35 are rejected.

### ***Correspondence Information***

14. Any inquiry concerning this information or related to the subject disclosure should be directed to the Primary Examiner, Joseph P. Hirl, whose telephone number is (571) 272-3685. The Examiner can be reached on Monday – Thursday from 6:00 a.m. to 4:30 p.m.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, David R. Vincent can be reached at (571) 272-3080.

Any response to this office action should be mailed to:

Art Unit: 2129

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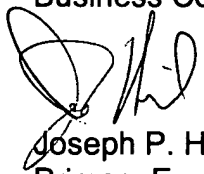
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 P.E.  
Joseph P. Hirl  
Primary Examiner  
February 28, 2006